

APPLICANT:

VA-30903
Georgia-Pacific Corporation, Brookneal OSB
P.O. Box 340
Brookneal, VA 24528

AIRS ID 51-031-0163

FACILITY LOCATION:

8 miles North of Brookneal, VA at the intersection of Highway 501 and Route 650,
Campbell Co.
UTM Coordinates are ZONE: 17 EASTING: 674.7 km NORTHING: 4110.4 km

FACILITY DESCRIPTION:

Georgia-Pacific Corporation, Brookneal OSB is a manufacturer of Oriented Strandboard covered by Standard Industrial Classification (SIC) Code 2493. The facility has the potential to operate twenty-four (24) hours per day, seven (7) days per week, fifty-two (52) weeks per year. The facility has a permit to construct and operate dated September 17, 1997, amended April 10, 1998. The facility manufactures a reconstituted wood product known as oriented strandboard (OSB) from a mixture of approximately 40% soft hardwoods and 60% softwoods. The facility is permitted to manufacture 424.4×10^6 square feet per year of finished OSB, calculated monthly as the sum of each consecutive 12 month period. The square footage is based on a panel thickness of 3/8 inches.

EMISSIONS SUMMARY:

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR]		
CRITERIA POLLUTANTS	POTENTIAL EMISSIONS	1998 ACTUAL EMISSIONS
Particulate Matter (PM ₁₀)	153.3 <u>122.7</u>	89.4
Nitrogen Oxides (NO _x)	222.2	147.4
Sulfur Dioxide (SO ₂)	22.6	6.0
Carbon Monoxide (CO)	235.2	131.2
Volatile Organic Compounds (VOC)	33.9	24.6

At the request of GP, **STATE ONLY REQUIREMENTS** are included in the current Title V permit. Therefore, the following limits of Hazardous Air Pollutants are included.

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR] (Cont'd)		
HAZARDOUS AIR POLLUTANTS	POTENTIAL EMISSIONS	1998 ACTUAL EMISSIONS
Formaldehyde	8.5 <u>4.4</u>	2.6

Phenol	0.7	0.5
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TITLE V PROGRAM APPLICABILITY BASIS:

This facility has the potential to emit ~~453.3~~ 122.7 tons per year of PM₁₀, 222.2 tons per year of NO_x, and 235.2 tons per year of CO. Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, Georgia-Pacific Corporation, Brookneal OSB is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 9 VAC 5 Chapter 80 Article 1.

PERIODIC MONITORING**A. Opacity (General)**

For opacity, all emission units at the Brookneal facility may be considered as in either one of two groups. These groups are: (1) emission units for which the opacity is expected to be 0% for properly operating units, and (2) the Wellons energy system.

1. Normally 0%@emission units

The following emission units are expected to have 0% opacity:

- The press and the spray booth have 0% opacity when their control devices are operating properly. (Note: The allowable coatings used in the spray booth are water-based, therefore the only pollutant limited by permit is particulate matter.)
- The fabric filters numbered 6800, 6900, 8900, and 9500 have 0% opacity when operating properly. Therefore, these units should easily meet the 0.01 gr/dscf statement of their emission limit for particulate matter .
- The cyclones numbered 8950 and 9600 have a permit-specified control efficiency for particulate matter of 99.9% and have 0% opacity when operating properly. These units have been tested and shown to meet the 0.01 gr/dscf statement of their emission limit for particulate matter.
- The wood stock piles are log piles and bark piles. The materials stored in these piles are typically much larger than the defined size of particulate matter. Also, these piles are generally so moist that blowing particulate matter is not typically a problem. Finally, the permit includes language that these stock piles must be wetted as needed to be in compliance with a specified opacity limit.

- The vast majority of the facility roads are paved and the Title V permit requires that reasonable precautions be taken to prevent particulate matter from becoming airborne. (Note: Since the particulate matter from the roads and paved surfaces is considered fugitive dust, rather than fugitive emissions, condition 40 of the preconstruction permit is not carried forward as an applicable requirement in the Title V permit).

Therefore, when properly operated and maintained these emission units are expected to have 0% opacity. It follows that any visible emissions from these emission units warrant the attention of facility personnel. The language in the Title V permit requires this attention.

2. Wellons

The Wellons energy system is required by the preconstruction permit and the current Title V permit to (a) have a continuous opacity monitor (COM), (b) audit the COM performance regularly, and (c) submit regular excess emission reports. The COM opacity readings are continuously recorded on a dedicated monitoring computer and also on a strip chart. If the COM readings exceed the opacity limit, an alarm is activated on the operator control panel. The facility records the beginning time, the end time, and reason for any opacity exceedance in accordance with 40 CFR 60.7 (c). Therefore, the COM is considered to provide adequate periodic monitoring of opacity for the Wellons system.

B. Other Periodic Monitoring

1. Press

The principle pollutants of concern from the press are particulate matter and VOC.

a. Particulate matter

For particulate matter the periodic monitoring requirement is considered satisfied by the visual survey as required in the Title V permit (condition III B 1). (Note: Per DEQ practice, the preconstruction permit included the requirement to install and continuously operate a performance indicating device on the air pollution control device for the Press (ie., differential pressure gage for RTO/TCO). The Title V permit adds language to explicitly define the acceptable operation of this device in order to be considered Acontinuous@.)

b. VOC

VOC emissions from the press are controlled by a Regenerative Thermal Oxidizer, with a Thermal Catalytic Oxidizer option (RTO/TCO). The TCO option is essentially an RTO with a portion of the standard heat transfer media replaced with a media coated with a catalytic material. The introduction of the catalytic material lowers the combustion temperature required to meet the guaranteed control efficiency from 1500 deg F to 900 deg F. The permitted retention time in the combustion chamber of 1 second is the same regardless of whether the control device is operating as an RTO or a TCO.

The controlled emissions of VOC from the press were successfully determined to be in compliance by tests, both when the control device was configured in the RTO mode and when in the TCO mode. The temperature in the combustion chamber

during each test was recorded and is considered indicative of proper operation. The preconstruction and Title V permits require that the combustion temperature be continuously measured and recorded, and that the records be retained for 5 years. Also, the facility has alarms that alert operators if the temperature drops below the level specified in the permit. Finally, the facility policy is to retain graphical records of measured temperature and to review these records regularly for trends. Therefore, the periodic monitoring requirement for VOC from the press is considered satisfied. (Note: The Title V permit adds language to explicitly define the acceptable operation of the temperature measurement and recording device in order to be considered Acontinuous@.)

Two additional notes related to the TCO mode are warranted. First, the preconstruction and Title V permits require annual activity testing of the catalyst to insure adequate catalytic action, and second, the permittee is required to notify DEQ of the actual date of any change in RTO/TCO operating mode.

c. NOx and CO

The emission limits for NOx and CO from the press are based on stack testing performed at GP's Woodland Maine facility and these factors were applied to the Brookneal unit operating at capacity. Therefore, these limits are not expected to be exceeded and periodic monitoring is not considered to be required.

2. Wellons energy system

The principle pollutants of concern from the Wellons energy system/dryers are particulate matter, VOC, and NOx.

a. Particulate matter

For particulate matter the periodic monitoring requirement is considered satisfied by opacity monitoring. (Note: Per DEQ practice, the preconstruction permit included the requirement to install and continuously operate performance indicating devices on air pollution control devices for the Wellons energy system (ie., differential pressure gages for the multicyclones, and current and voltage metering for the ESP).

The Title V permit adds language to explicitly define the acceptable operation of these devices in order to be considered Acontinuous@.)

b. VOC and CO

The Wellons serves both the process function of producing heat to dry the wood flakes and the air pollution control function of VOC and CO destruction. The control strategy is to recirculate the dryer exhaust gases for use as combustion air for the Energy System and thereby provide sufficient temperature and time for pollutant destruction. As configured, the Wellons provides a time and temperature equivalent to an RTO, and RTOs have been successfully demonstrated to control the dryer exhaust stream. Therefore, the periodic monitoring for VOC and CO control by the Wellons is similar to that described above for VOC from the press.

The controlled emissions of VOC and CO from the Energy System/dryers were

successfully determined to be in compliance by testing, and the combustion temperature in the system during the tests was recorded. The preconstruction and Title V permits require that the combustion temperature be continuously measured. The Title V permit requires that the combustion temperature be continuously recorded and that all monitoring (including measurement records) be retained for 5 years. Also, the facility has alarms that alert operators if the temperature drops below the level specified in the permit. Finally, the facility policy is to develop graphical records of measured temperature and to review these records regularly for trends. Therefore, the periodic monitoring requirement for VOC and CO is considered satisfied. (Note: The Title V permit adds language to explicitly define the acceptable operation of the temperature measurement and recording device in order to be considered Acontinuous@.)

c. NO_x

The facility added Selective Non-catalytic Reduction control (SNCR) to the Wellons exhaust in order to increase their comfort level in certifying compliance with the NO_x limit in the preconstruction permit. No permit was required for the addition of this emission control system. The rate of urea injection for the SNCR system is modulated, and may go to zero, based on a measurement of actual NO_x emissions (in units of lb/MMBTU) in the exhaust stack. The NO_x emissions are measured by a continuous emission monitor (CEM). The accuracy of the CEM has been verified against reference method results. Facility practice is to do daily zero and span checks of the CEM and to perform a Cylinder Gas Audit (CGA) quarterly in conjunction with maintenance per the manufacturer's recommendation. The dedicated computer that monitors the COM output also monitors the NO_x CEM. The facility policy is to develop graphical records of measured NO_x and to review these records regularly for trends. The Title V permit requires that the permittee retain these records of NO_x emissions. Therefore, the periodic monitoring requirement is considered satisfied.

d. SO₂

The emission limits for SO₂ from the Wellons are based on AP-42 emissions factors for wood combustion and these factors were applied to the unit operating at capacity.

Therefore, these limits are not expected to be exceeded and periodic monitoring is not considered to be required.

3. Low pressure material handling systems

Per DEQ practice, the preconstruction permit included the requirement to install and continuously operate performance indicating devices on the air pollution control devices for the low pressure material handling systems (ie., differential pressure gages for the fabric filters). The Title V permit adds language to explicitly define the acceptable operation of these devices in order to be considered Acontinuous@.)

LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the Commonwealth of Virginia Federal Operating Permit Regulations for

the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

- a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.
- b. Any term or condition of any preconstruction permit issued pursuant to 9 VAC 5-80-10, Article 8 (9 VAC 5-80-1700 et seq.) of this part or 9 VAC 5-80-30 or of any operating permit issued pursuant to 9 VAC 5 Chapter 80 Article 5, except for terms or conditions derived from applicable state requirements or from any requirement of these regulations not included in the definition of applicable requirement.
- c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under ' 111, 112 or 129 of the federal Clean Air Act.
- d. Any requirement concerning accident prevention under ' 112(r)(7) of the federal Clean Air Act.

- e. Any compliance monitoring requirements established pursuant to either ' 504(b) or ' 114(a)(3) of the federal Clean Air Act or these regulations.
- f. Any standard or other requirement for consumer and commercial products under ' 183(e) of the federal Clean Air Act.
- g. Any standard or other requirement for tank vessels under ' 183(f) of the federal Clean Air Act.
- h. Any standard or other requirement in 40 CFR Part 55 to control air pollution from outer continental shelf sources.
- i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator has determined that such requirements need not be contained in a permit issued under this article.
- j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et seq.) of this part.
- k. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder.
- l. Any standard or other requirement governing solid waste incineration under ' 129 of the Clean Air Act.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5 Chapter 80 Article 1 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state but is not federally-enforceable is identified in the draft Title V permit as such.

This facility has been found to be subject to the requirements set forth in items Aa, b, and c@ above, specifically including the following applicable regulations:

Federal and State:

9 VAC 5-20-180	Facility control equipment maintenance and malfunction
9 VAC 5-50-20	Compliance
9 VAC 5-50-30	Performance testing
9 VAC 5-50-40 F	Monitoring
9 VAC 5-50-50	Notification, records, and reporting
9 VAC 5-50-80	Standard for visible emissions
9 VAC 5-50-260	Best available control technology (BACT)

9 VAC 5-50-180	Standard for toxic pollutants STATE ONLY REQUIREMENT
9 VAC 5-50-410	Designated standards of performance
9 VAC 5-80-10	Permits - new and modified sources
9 VAC 5-80-10 H	Standards for granting permits
9 VAC 5-80-10 J	Compliance determination and verification by performance testing
9 VAC 5-80-80 E	Applications
9 VAC 5-80-80 G	Signatory and certification requirements
9 VAC 5-80-110 F	Recordkeeping and reporting
9 VAC 5-80-110 G	Enforcement
9 VAC 5-80-110 H	Permit fees
9 VAC 5-80-110 I	Emissions trading
9 VAC 5-80-110 K	Compliance
9 VAC 5-80-110 L	Reopening
9 VAC 5-80-110 N	Enforceability
9 VAC 5-80-140	Permit shield
9 VAC 5-80-150 E	Maintain permit on premises
9 VAC 5-80-160	Transfer of permits
9 VAC 5-80-170 B	Timely and complete permit renewal
9 VAC 5-80-250	Malfunction
9 VAC 5-80-260	Enforcement
9 VAC 5-80-720	Insignificant Activities
9 VAC 5-170-160	Conditions on approval

REQUEST FOR VARIANCES OR ALTERNATIVES:

None

COMMENT PERIOD:

The public notice appeared in the ***** on [date].

Beginning Date: ***

Ending Date: *****

All written comments should be addressed to the following individual and office:

Thomas H. Berkeley, PE
Senior Environmental Engineer
Department of Environmental Quality
Lynchburg Satellite Office
7705 Timberlake Road
Lynchburg, VA 24502
Phone: (804) 582-5120 Fax: (804) 582-5125

PROCEDURE FOR REQUESTING PUBLIC HEARING:

During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled.

A request for a public hearing shall be in writing to the above address and shall state the nature of the issues proposed to be raised in the hearing. The Director shall grant such a request for a hearing if he concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.